

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently amended) An implantable system, comprising:

a housing;

energy delivery circuitry provided in the housing;

detection circuitry provided in the housing;

two or more subcutaneous electrodes configured for subcutaneous, non-intrathoracic placement in a patient and coupled to the energy delivery and detection circuitry, the two or more subcutaneous electrodes distributed among the housing and a semi-rigid elongated support assembly coupled to the housing, the elongated support assembly having mechanical memory and configured to positionally stabilize the two or more subcutaneous electrodes with respect to one another in subcutaneous, non-intrathoracic tissue;

a lead interface provided on the housing and coupled to the energy delivery and detection circuitry, the lead interface configured to receive at least one lead comprising one or more lead electrodes, the one or more lead electrodes configured for intrathoracic placement in the patient; and

a controller provided in the housing and coupled to the lead interface and the energy delivery and detection circuitry, the controller configured to execute program instructions stored in memory to cause the system to operate in a first configuration using only the two or more subcutaneous electrodes in the absence of the at least one lead being received by the lead interface, and operate in a second configuration using at least the one or more lead electrodes with the at least one lead received by the lead interface, the controller configured to execute program instructions stored in memory to implement cardiac activity sensing and stimulation in each of the first and second system configurations, respectively.

2. (Canceled)

3. (Previously presented) The system according to claim 1, wherein the system is configurable to operate in the second configuration using only two or more of the lead electrodes.

4. (Original) The system according to claim 1, wherein the system is configurable to operate in the second configuration using selected ones of the subcutaneous and lead electrodes.

5. (Currently amended) The system according to claim 1, wherein the semi-rigid elongated support assembly has a generally thoracic curved shape ~~further comprising a can electrode provided at the housing, the system configurable to use the can electrode in one or both of the first and second configurations.~~

6. (Original) The system according to claim 1, wherein a unipolar configuration is selectable in the second configuration for one or more of sensing, pacing, and shocking using a selected one of the lead electrodes and a selected one of the subcutaneous electrodes.

7. (Original) The system according to claim 1, further comprising a switching matrix coupled to the detection and energy delivery circuitry, the subcutaneous electrodes, and to the lead electrodes via the lead interface, the controller configuring the switching matrix to couple selected ones of the lead and subcutaneous electrodes with selected inputs or outputs of the detection and energy delivery circuitry.

8. (Original) The system according to claim 1, further comprising a switching matrix coupled to the detection and energy delivery circuitry, the subcutaneous electrodes, and to the lead electrodes via the lead interface, the controller configuring the switching matrix to couple selected ones of the lead and subcutaneous electrodes with selected inputs and

outputs of the detection and energy delivery circuitry to perform a capture threshold determination.

9. (Original) The system according to claim 1, wherein the lead interface comprises one or both of a ventricular lead interface and an atrial lead interface.

10. (Original) The system according to claim 1, wherein the lead interface comprises one or both of a pacing lead interface and a defibrillation lead interface.

11. (Original) The system according to claim 1, wherein the lead interface comprises a bi-ventricular lead system interface or a multi-site lead system interface.

12. (Original) The system according to claim 1, wherein the lead interface comprises one or more of a transvenous lead interface, an endocardial lead interface, and an epicardial lead interface.

13. (Original) The system according to claim 1, wherein the controller configures the system to selectively operate in one of the first and second configurations in response to a signal received from a patient-external signal source.

14. (Previously presented) The system according to claim 1, wherein the controller configures the system to operate in one of the first and second configurations with the at least one lead received by the lead interface, and, in response to a predetermined condition, configures the system to operate in the other of the first and second configurations.

15. (Original) The system according to claim 14, wherein the predetermined condition comprises a predetermined heart rhythm.

16. (Original) The system according to claim 14, wherein the predetermined condition comprises an arrhythmia, unsuccessful detection of an arrhythmia, or treatment of an arrhythmia.

17. (Original) The system according to claim 14, wherein the predetermined condition comprises expiration of a predetermined duration of time or occurrence of a scheduled event.

18. (Previously presented) The system according to claim 1, wherein the controller configures the system to operate concurrently in the first and second configurations with the at least one lead received by the lead interface.

19. (Previously presented) The system according to claim 1, wherein the controller configures the system to switch operation between the first and second configurations to detect a heart rhythm or treat an arrhythmia using each of the first and second configurations with the at least one lead received by the lead interface.

20. (Previously presented) The system according to claim 1, wherein:
at least two of the lead electrodes are configured to be disposed in a single heart chamber; and
the second configuration provides one or both of multisite sensing and multisite energy delivery.

21. (Original) The system according to claim 1, wherein the controller:
configures the system to operate in one of the first and second configurations to perform a first function; and
configures the system to operate in the other of the first and second configurations to perform a second function, wherein performance of the first function enhances performance of the second function.

22. (Original) The system according to claim 21, wherein the first function comprises a first energy delivery function to instill organization in an arrhythmia, and the second function comprises a second energy delivery function to terminate the arrhythmia.

23. (Original) The system according to claim 1, wherein:
the at least one lead comprises an atrial lead; and
the controller configures the system to provide one or both of bradycardia pacing and antitachycardia pacing.

24. (Original) The system according to claim 1, wherein:
the at least one lead comprises an atrial lead;
the second configuration provides atrial activity sensing and atrial arrhythmia therapy delivery; and
the first configuration provides backup ventricular tachyarrhythmia therapy support for the second configuration.

25. (Previously presented) The system according to claim 1, wherein:
the at least one lead comprises an atrial lead having one or more atrial electrodes; and
the controller configures the system to operate in the first configuration to provide tachyarrhythmia discrimination using the one or more subcutaneous electrodes.

26. (Currently amended) The system according to claim 1, wherein the semi-rigid elongated support assembly is shape-fitable under manual force to a shape that is generally retained after implantation~~housing defines a unitary structure, and each of the subcutaneous electrodes is respectively provided on the housing.~~

27. (Original) The system according to claim 1, wherein the controller determines a transthoracic impedance using at least two of the electrodes.

28. (Currently amended) The system according to claim ~~27~~ 26, wherein the semi-rigid elongated support assembly comprises a braid system that can be distorted under manual force by a clinician to take and maintain the shape ~~controller detects disordered breathing using the transthoracic impedance.~~

29. (Currently amended) The system according to claim ~~1~~ 26, wherein the elongated assembly comprises a gooseneck system that can be distorted under manual force by a clinician to take and maintain the shape ~~controller acquires electrocardiograms for storage in a memory coupled to the controller.~~

30. (Original) The system according to claim 1, wherein the controller acquires diagnostics for storage in a memory coupled to the controller.

31. (Original) The system according to claim 1, further comprising a communications device coupled to the controller, the communications device configured for communicating with a patient-external programmer or a patient-external network system.

32. (Currently amended) An implantable system, comprising:

a housing;

energy delivery circuitry provided in the housing;

detection circuitry provided in the housing;

two or more subcutaneous electrodes configured for subcutaneous, non-intrathoracic placement in a patient and coupled to the energy delivery and detection circuitry, the two or more subcutaneous electrodes rigidly coupled to the housing;

a lead interface provided on the housing and coupled to the energy delivery and detection circuitry, the lead interface configured to receive at least one lead comprising

one or more lead electrodes, the one or more lead electrodes configured for intrathoracic placement in the patient; and

a controller provided in the housing and coupled to the lead interface and the energy delivery and detection circuitry, the controller configured to execute program instructions stored in memory to cause the system to:

operate in a first configuration using only the two or more subcutaneous electrodes; and

operate in a second configuration using at least the one or more lead electrodes with the at least one lead received by the lead interface, the controller configured to execute program instructions stored in memory to cause the system to implement cardiac activity sensing and stimulation in each of the first and second system configurations, respectively, and operate the first and second configurations in parallel such that the second configuration acquires performance data associated with performance of a particular function by the first configuration.

33. (Original) The system according to claim 32, wherein the particular function comprises a function associated with sensing.

34. (Original) The system according to claim 32, wherein the particular function comprises a function associated with tachyarrhythmia detection.

35. (Original) The system according to claim 32, wherein the particular function comprises a function associated with bradycardia detection.

36. (Original) The system according to claim 32, wherein the particular function comprises a first sub-function associated with rate-based tachyarrhythmia detection and a second sub-function associated with morphology-based tachyarrhythmia detection.

37. (Original) The system according to claim 32, wherein the particular function comprises a function associated with one or both of stimulus waveform generation and stimulus waveform delivery.

38. (Currently amended) The system according to claim 32, wherein the housing defines an elongated unitary structure, the two or more subcutaneous electrodes are disposed on the housing, and two electrodes of the two or more subcutaneous electrodes are supported near opposing ends of the housing~~particular function comprises a function involving a configuration of one or both of the lead electrodes and the subcutaneous electrodes.~~

39. (Currently amended) The system according to claim 32, wherein the housing defines a rigid elongated unitary structure, and each of the subcutaneous electrodes is respectively provided on the housing.

40. (Original) The system according to claim 32, further comprising a communications device coupled to the controller, the communications device configured for communicating with a patient-external programmer or a patient-external network system.

41-95. (Canceled)